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EXAMINER

CLARK, ISAAC R

ART UNIT

PAPER NUMBER

2154

DATE MAILED: 02/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicati n No.

09/980,354

Applicant(s)

LEGALLAIS ET AL.

Examiner

Isaac R Clark

Art Unit

2154

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/29/01</u> . | 6) <input type="checkbox"/> Other: ____.  |

### **DETAILED ACTION**

1. Claims 1-14 are presented for examination.

#### ***Priority***

2. The applicant claims foreign priority under 35 USC § 119(a) from EPO Application No. 99401330.8 filed 06/02/1999.
3. The International filing date for the subject matter in the pending claims in this application is 05/31/2000.

#### ***Drawings***

4. The Examiner contends that the drawings submitted on 11/29/2001 are acceptable for examination proceedings.

#### ***Specification***

5. The abstract is objected to because it exceeds 150 words in length (195 words).
6. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

### ***Arrangement of the Specification***

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or  
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.
- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

### **Content of Specification**

- (a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.

- (b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.
- (c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.
- (d) Incorporation-By-Reference Of Material Submitted On a Compact Disc: The specification is required to include an incorporation-by-reference of electronic documents that are to become part of the permanent United States Patent and Trademark Office records in the file of a patent application. See 37 CFR 1.52(e) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were permitted as electronic documents on compact discs beginning on September 8, 2000.  
  
Or alternatively, Reference to a "Microfiche Appendix": See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.
- (e) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:
  - (1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."
  - (2) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."
- (f) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of

Art Unit: 2154

the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.

- (g) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.
- (h) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.
- (i) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet or electronic page (37 CFR 1.52(b)(3)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).
- (j) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the World Intellectual Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).
- (k) Sequence Listing. See 37 CFR 1.821-1.825 and MPEP §§ 2421-2431. The requirement for a sequence listing applies to all sequences disclosed in a given application, whether the sequences are claimed or not. See MPEP § 2421.02.

***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. As per claims 1-4, 6, 8, and 13, these claims recite the limitation "said given portal" and "the given portal" as follows:

a. Claim 1, line 12, 12-13, 15, 17, 20, and 21; claim 2, line 25, 26, 27, 28; claim 3, line 34 and 35; claim 4, line 5; claim 6, line 13; claim 8, line 23; claim 9, line 29; claim 13, line 11.

10. The term "said given portal" is considered to be indefinite in the claims above because claim 1 recites a plurality of first and second portals with none of the portals designated as a given portal.

11. As per claim 1, Claim 1, recites the limitation "said received routing table data" in step (e). This recitation is considered to be indefinite because routing table data is received in steps (a) and step (d), and it is not clear which received data "said received routing table data" refers to. For the purpose of examining the claims "said received routing table data" in steps (b) and (e) are assumed to refer to the routing table data received in steps (a) and (d) respectively.

Art Unit: 2154

12. As per claim 5, 7 and 10-12, these claims are rejected based on their dependencies.

***Claim Rejections - 35 USC § 102***

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claims 1-4, 7-10, and 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Tai, T.-Y.; Gerla, M., LAN interconnection: a transparent, shortest-path approach IEEE International Conference on Communications, 23-26 June 1991, Pages: 1666 - 1670 vol.3 (hereinafter Tai).

15. As per claim 1, Tai teaches a method for determining a routing table in a communication network comprising buses connected by bridges (page 1667 Fig. 3: routers connect to LANS), each bridge comprising two companion portals (Fig. 2), a first portal being connected to a first bus and a second portal being connected to a second bus, each bus being identified by a unique bus identifier (page 1668: determination of LAN ID), each portal being identified by a unique portal identifier (page 1668, col. 2, first paragraph), said method being characterized in that it comprises the steps of:

(a) transmitting, by said given portal, routing table data stored by said given portal to the given portal's companion portal and receiving, by said given portal, routing table data from its companion portal; and (b) concatenating said received routing table



data with the contents of the given portal's own routing table (page 1669, col. 1, third paragraph: new station IDs added to routing table based on data transmitted between ports of routers);

(c) broadcasting said given portal's own routing table data on the portal's local bus (page 1668, col. 2, exchanging routing data among routers on the same LAN; page 1668, col. 1: delay table information exchanged among port data bases);

(d) receiving routing table data broadcast by other portals on the local bus and concatenating said received routing table data with contents of the given portal's own routing table (page 1668: col. 1, shortest path added to routing database);

(e) repeating the above steps by said given portal until routing data concerning all buses in the network has been received (page 1668: col. 2, paragraph 3.1. process executed until all buses are identified and rerun when LAN changes).

16. As per claim 2, Tai teaches the method according to claim 1, wherein the routing table data transmitted by said given portal during the first iteration of the step (a) comprises the identifier of the given portal and the identifier of the given portal's local bus; the routing table data received by said given portal from its companion portal during the first iteration of step (a) comprises the identifier of said companion portal and the identifier of the companion portal's local bus (page 1668, col. 2: LAN ID comprised of port attached to LAN; page 1669: station IDs transmitted between ports).

17. As per claim 3, Tai teaches the method according to claim 2, wherein said routing table data transmitted, respectively received, by said given portal comprises the given portal's identifier, respectively the identifier of the given portal's companion portal

(page 1668: LAN ID exchanged is comprised of portal identifier for the given LAN and router ID).

18. As per claim 4, Tai teaches the method according to claim 2, wherein the routing table of a portal comprises the identifiers of remote buses (page 1669: bus identifiers), and for each remote bus, the identifier of the portal local to the remote bus having initially transmitted the remote bus identifier (page 1669: LAN identifier includes identification of Port attached to LAN), the depth of the remote bus compared to the bus local to the given portal (page 1667: delay information includes number of LAN hops), and the identifier of the local portal having broadcast the routing table data comprising the remote bus identifier on the local bus (page 1667, col. 2: delay table includes identification of port).

19. As per claim 7, Tai teaches the method according to claim 1, wherein the routing table data transmitted or broadcast by a given portal comprises only the part of the routing table which was not transmitted or broadcast by said given portal during a previous step (page 1668: changes to LAN broadcast to all other routers).

20. As per claim 8, Tai teaches the method according to claim 7, wherein the given portal stops iterating the steps (a) to (e) when it did not receive routing data during the previous iteration (page 1669, col. 1, third paragraph: concatenation step only occurs when new routing data is received).

21. As per claim 9, Tai teaches the method according to claim 1, wherein the concatenation steps include the selection of a unique path from the bus local to the given portal to any remote bus and the deletion of the non-selected paths from the

routing table of the given portal (page 1668: col. 1, calculation of database finds path with minimum delay for a given destination bus).

22. As per claim 10, Tai teaches the method according to claim 4, wherein said selected path to a given remote bus is a function of the portal identifiers stored in the routing table for said given remote bus (Page 1668: col. 2, if more than one LAN ID is identified for a router, smallest ID is chosen).

23. As per claim 12, Tai teaches the method according to claim 9, wherein said selection is made among the shortest paths to the remote bus, paths of greater length being deleted from the routing table (page 1667, col. 2: delay metric is LAN hop count).

24. As per claim 13, Tai teaches the method according to claim 1, wherein a routing table is simplified for the purpose of routing messages to contain the list of remote bus identifiers and for each remote bus whether the given portal shall forward a message from the bus local to given portal to its companion portal (Page 1667: Fig. 1).

25. As per claim 14, Tai teaches a portal device adapted to be connected to a first communication bus and adapted to be linked to a companion portal device for connection to a second communication bus, said portal device being characterized in that it comprises (Fig. 2: router devices with ports connected to each network): a bus interface for connection to said first communication bus; a switching fabric interface for connection to said companion portal device (page 1666-1667: router devices connects ports and forwards traffic as appropriate); a memory for storing routing table data (page 1667 paragraph 2.1: forwarding database);

means for transmitting routing table data stored in said memory to said companion portal (page 1669, col. 1, third paragraph), for broadcasting routing table data stored in said memory on said first communication bus (page 1668, col. 2; exchanging delay table information over ports on same LAN), for controlling said bus interface and switching fabric interface to receive or transmit routing table data, and for concatenating received routing table data with data stored in said memory during successive receive and transmit cycles relating to routing table data for remote communication buses (page 1669: intersecting routing data concerning stations on remote LAN: page 1668 adding new routing information communicated over bus).

***Claim Rejections - 35 USC § 103***

26. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

27. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tai, T.-Y.; Gerla, M., LAN interconnection: a transparent, shortest-path approach IEEE International Conference on Communications, 23-26 June 1991, Pages:1666 - 1670 vol.3 (hereinafter Tai) further in view of Garcia-Luna-Aceves et al. (US Published Application 2002/0049561, hereinafter Garcia).

28. As per claim 5, Tai fails to explicitly teach the method according claim 1, wherein the routing table data transmitted or broadcast by a given portal contains the entire routing table.

29. Garcia teaches that the routing table data transmitted or broadcast by a given portal contains the entire routing table (Abstract lines 6-14).

30. It would have been obvious to one of ordinary skill in this art at the time the invention was made to combine the teaching of Tai and Garcia because they both with updating a distributed routing table to select paths in a remote network. Furthermore, the teaching of Garcia to transmit the entire path would allow reevaluating the shortest path selection when changes occur to the network (See Garcia paragraph 0078).

31. As per claim 6, Tai teaches the method according to claim 5, wherein the given portal stops iterating the steps (a) to (e) when the routing tables received from its companion portal and local portals contain only data which is redundant with the given portal's own routing table (page 1669, col. 1: brouter concatenates only when it sees new routing data).

32. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tai, T.-Y.; Gerla, M., LAN interconnection: a transparent, shortest-path approach IEEE International Conference on Communications, 23-26 June 1991, Pages:1666 - 1670 vol.3 (hereinafter Tai) further in view of Oechsle (US Patent 5,570,466, issued 10/29/1996).

33. As per claim 11, Tai teaches the method according to claim 4, but fails to teach that the selected path selected path to a given remote bus is a function of the bandwidth of portals on said path.

34. Oechsle teaches selecting the path to a given remote bus as a function of the bandwidth of portals on said path (col. 4, lines 45-55).

35. It would have been obvious to one of ordinary skill in this art at the time the invention was made to combine the teaching of Tai and Oechsle because they both with updating bridge routing tables to select paths to a remote network. Furthermore, the teaching of Oechsle to modify the path selection taught by Tai to select a path as a function of portal bandwidth would allow picking the most capable path for transmission thus maximizing efficiency (See Oechsle col. 4, lines 53-55).

### ***Conclusion***

36. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents and publications are cited to further show the state of the art with respect to "Method and device for establishing a routing table in a communication network".


- i. US 6,647,446 James et al. Propagation of bus identifiers in a bus bridge system
- ii. US 5,963,556 Varghese et al. Bridge with plurality of ports and forwarding database
- iii. US 5,018,133 Tsukakoshi et al. Reconstruction of bridge routing scheme after topology change
- iv. P1394.1, Draft IEEE Standard for High Performance Serial Bus Bridges, October, 18, 1997, pages 1-16.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isaac R Clark whose telephone number is (571)272-3961. The examiner can normally be reached on Monday-Friday 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John A Follansbee can be reached on (571)272-3964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

IRC

  
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